# UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/884,789 | 06/19/2001 | Harand Gaspar | F1013/2008P | 4351 |

7590          01/12/2005

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| EXAMINER |
|---|
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| ART UNIT | PAPER NUMBER |
|---|---|
| 2667 | |

DATE MAILED: 01/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

| | Application No. | Applicant(s) |
| **Office Action Summary** | 09/884,789 | GASPAR ET AL. |
| | Examiner | Art Unit | |
| | Viet Q. Le | 2667 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☒ Responsive to communication(s) filed on <u>07 October 2004</u>.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
   closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) ☒ Claim(s) <u>1-22</u> is/are pending in the application.
   4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) <u>1-22</u> is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All  b)☐ Some * c)☐ None of:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. _____.
    3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
       application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1.      The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2.      Claims 1-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Jason

Alexander Trachewsky et al. (US 2001/0055311 A1), hereinafter referred to as

Trachewsky.

Regarding claim 1, Trachewsky discloses a method for verifying collision

detection and resolution in a home network, the home network comprising a plurality of

stations wherein each station includes a host media access controller program and a

media access controller (Trachewsky described the carrier sense multiple access /

collision detect (CSMA/CD) media access control method that he implemented in the

MAC controller. He also disclosed a home network of nodes competing access to the

same transmission medium using CSMA/CD algorithm to avoid collisions. Each node

comprises of a PHY, a MAC and a MAC program as indicated in fig. 4a.  See fig. 2, 3a

and 4a; See also paragraphs 160, 161 and 168), the method comprising the steps of:

transmitting a frame when a transmission channel is inactive (See paragraphs 160 and

168), when a collision is detected, ceasing transmission of the frame (See paragraph

160), choosing a back-off level (See paragraphs 160, 161 and 168), incrementing a

back-off level counter in response to receiving back-off signal from another station on

the network (See paragraphs 160 and 168), decrementing the back-off counter in

response to successfully transmitting the frame (See paragraphs 160 and 168), and

accessing the back-off level counter through the host media access controller such that

collision resolution can be monitored without snooping signals over the network (See

paragraphs 160 and 168).


Regarding claim 2, Trachewsky discloses the method further includes the step of

deferring transmission of a frame when the transmission channel is active (Trachewsky

described the carrier sense multiple access / collision detect (CSMA/CD) media access

control method that he implemented in the MAC controller. He also disclosed a home

network of nodes competing access to the same transmission medium using CSMA/CD

algorithm to avoid collisions. See paragraphs 160).


Regarding claim 3, Trachewsky discloses the method further includes the step of

transmitting a frame in one of a plurality of priority slots (See paragraph 168).

Regarding claim 4 and 12, Trachewsky discloses the method further includes the step of maintaining a first and second back-off level counters for each of the priority slots (See paragraph 168).

Regarding claim 5, Trachewsky discloses the method further includes the step of initializing the first and second back-off level counters to zero after a reset (See paragraph 168).

Regarding claim 6, Trachewsky discloses the method further includes the step of randomly choosing a back-off level by choosing back-off level signal slot and transmitting a back-off signal in that slot (See paragraph 168).

Regarding claim 7 and 13, Trachewsky discloses the method further includes the step of incrementing the first back-off level counter in response to receiving back-off signal from another station on the network (See paragraph 168).

Regarding claim 8 and 14, Trachewsky discloses the method further includes the step of in response to detecting a back-off signal in a slot prior to the back-off level signal slot chosen, increasing the back-off level by incrementing the second back-off level counter (See paragraph 168).

Regarding claim 9 and 15, Trachewsky discloses the method further includes the

step of: when any station successfully transmits a frame, reducing the back-off level by

one by decrementing the second back-off level counter if it is greater than zero, and

when the second back-off level counter reaches zero transmitting the frame of the

network (See paragraph 168).

Regarding claim 10, Trachewsky discloses the method further including the step

of maintaining the first and second back-off level counters as 4-bit register type

memories in the MAC (See paragraph 168).

Regarding claim 11, Trachewsky discloses a method for verifying collision

detection and resolution in a home network (Trachewsky described the carrier sense

multiple access / collision detect (CSMA/CD) media access control method that he

implemented in the MAC controller. He also disclosed a home network of nodes

competing access to the same transmission medium using CSMA/CD algorithm to avoid

collisions. See Fig. 2, 3a and 4a; See paragraph 160), the home network comprising a

plurality of stations wherein each station includes a host media access controller

program and a media access controller (See Fig. 3a and 4a), the method comprising

the steps of: transmitting a frame in one of a plurality of priority slots (See paragraph

168); providing the media access controller with at least one back-off level counter for

each of the priority slots (See paragraph 168); in response to detecting a frame

collision, ceasing transmission (See paragraph 160); resolving the collision by:

randomly choosing one from among a plurality of back-off level slots (See paragraph

168), transmitting a back-off signal in that slot (See paragraph 168); and monitoring the

back-off level slots and incrementing the back-off level counter for each back-off signal

detected (See paragraph 168), and decrementing the back-off level counter after a

successful transmission (See paragraph 168), whereby transmission is deferred to

stations having a lower back-off level count (See paragraph 168); and accessing the

back-off level counters from the host media access controller program to verify that

collision resolution is operating as intended (See paragraph 168), thereby eliminating

the need to snoop signals over the network.

Regarding claim 16, Trachewsky discloses a home network comprising a plurality

of stations (See Fig. 2 and 3a) wherein each station comprises, a control chip for

implementing a home phone line network alliance specification (See Fig. 4a), the control

chip including, a plurality of back-off level registers accessible by the host media access

controller program (See Fig. 4a and Fig. 30, block 1000; See paragraph 161 and 168),

the MAC further including, a transmit data path for transmitting frames of the network,

each frame assigned a priority level that the first transmission of the frame to a slot

corresponding to the priority level (See paragraph 168), wherein the frame is

transmitted when a carrier sense signal is inactive (See paragraph 160), and

transmission of the frame is suspended when a collision is detected (See paragraph

160), a Distributed Fair Priority Queuing (DFPQ) for resolving frame collisions by

choosing one of a plurality of back-off levels and deferring to stations that have chosen

a lower back-off level (See paragraph 168), incrementing the back-off level counter

when a back-off level signal is received from another station on the network (See

paragraph 168), and once the station completes a transmission, reducing the back-off

level by decrementing the back-off level counter (See paragraph 168), such that when

the counter reaches zero the MAC transmits the frame (See paragraph 168); and a host

media access controller program in communication with the MAC (See Fig. 4a) for

accessing the back-off level counter to verify that collision detection and resolution are

operating (See paragraph 160), thereby eliminating the need to snoop signals over the

home network.


Regarding claim 17, Trachewsky discloses the home network wherein frame

transmission deferral is ordered by up to 8 priority levels (Trachewsky described the use

of 3 bits reserved for PHY level priority. 2 to the exponential of 3 is equal to 8 levels of

priority. See paragraph 120).


Regarding claim 18, Trachewsky discloses the home network wherein there are

three back-off levels (See paragraph 163).


Regarding claim 19, Trachewsky discloses the home network wherein the MAC

includes one maximum back-off level counter and one back-off level counter for each of

the priority levels (See paragraph 168).

Regarding claim 20, Trachewsky discloses the home network wherein the

maximum back-off level counter indicates a number of back-off level signals received

over the home network, and wherein the back-off level counter indicates the back-off

level of the corresponding station (See paragraph 168).


Regarding claim 21, Trachewsky discloses the home network wherein the

maximum back off level counter and the back-off level counter are part of the MAC (See

Fig 30, block 1000; See paragraph 161).


Regarding claim 22, Trachewsky discloses a method for verifying collision

detection and resolution in a home network (See paragraph 160), the home network

comprising a plurality of stations wherein each station includes a host media access

controller program and a media access controller (MAC) (See Fig. 2, 3a and 4a),

wherein the MAC transmits frames in one of a plurality of priority slots (See paragraph

168), the method comprising the steps of: maintaining a first and second back-off level

counters for each of the priority slots (See paragraph 168); initializing the first and

second back-off level counters to zero after a reset (See paragraph 168), when a

conflict is detected, randomly choosing a back-off level signal slot and transmitting a

back-off signal in that slot (See paragraph 168); monitoring collision events and the

back-off level signal slots (See paragraph 168); incrementing the first back-off level

counter in response to receiving back-off signal from another station on the network to

indicate a total number of back-off signals received (See paragraph 168); decrementing

the first back-off counter in response to successfully transmitting the frame to reduce a

back-off level (See paragraph 168); in response to detecting a back-off signal in a slot

prior to the back-off level signal slot chosen, increasing the back-off level by

incrementing the second back-off level counter (See paragraph 168); when any station

successfully transmits a frame, reducing the back-off level by one by decrementing the

second back-off level counter if it is greater than zero (See paragraph 168); when the

second back-off; level counter reaches zero, transmitting the frame over the network

(See paragraph 168);and monitoring and diagnosing the home network by reading first

and second back-off level counters through the host media access controller program to

verify that collision detection and resolution are operating as intended (See paragraph

160 and 168); thus eliminating the need to snoop signals over the network.


### Conclusion


3.      The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

> a)      Eric Ojard et al. (U.S. 6,130,894), Off-Line broadband network interface.

> b)      John T. Holloway et al. (U.S. 6,256,317), Packet switched multiple access
>
> network system with distributed fair priority queuing.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Viet Q. Le whose telephone number is 571-272-2246.

The examiner can normally be reached on 8 AM -5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

vl

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SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600    1/6/05